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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,917	11/21/2003	Toshihide Tsubata	1035-482	7569
23117 7590 07/17/2009 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
SHERMAN, STEPHEN G				
ART UNIT		PAPER NUMBER		
2629				
MAIL DATE		DELIVERY MODE		
07/17/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Supplemental  
Notice of Allowability**

**Application No.**

10/717,917

**Examiner**

STEPHEN G. SHERMAN

**Applicant(s)**

TSUBATA ET AL.

**Art Unit**

2629

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the IDS filed 24 June 2009.
2. ☒ The allowed claim(s) is/are 1,3-9,20,21,25,33,34,36 and 38-41.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>6/24/2009</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|---|--|

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 24 June 2009 was filed after the mailing date of the Notice of Allowance on 29 May 2009. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Warren Burnam on 13 July 2009.

3. The application has been amended as follows:

Please amend claim 1 as follows:

1. A display device substrate, comprising:

one or more pixel electrodes each of which is provided on each intersection of a signal line and a scanning line that are provided on an insulating substrate; and  
an interlayer insulating film stacked between the signal line and the pixel electrode, wherein

in view of a vertical direction with respect to a surface of the insulating substrate, the signal line is provided on an area on which the pixel electrode is not provided, and a gap is provided between the signal line and the pixel electrode; and

wherein the signal line is covered by a light shielding film having an insulating property that contacts the signal line; wherein the interlayer insulating film is provided on the light shielding film; wherein the pixel electrode is provided on the interlayer insulating film; and wherein in view of a vertical direction with respect to the surface of the insulating substrate, a surface of the signal line and the gap provided between the signal line and the pixel electrode are covered by the light shielding film,

wherein in view of a vertical direction with respect to a surface of the insulating substrate, the pixel electrode, the interlayer insulating film, the light-shielding film, and the signal line are provided in this order;

wherein the gap includes an area in which no voltage is applied to a region between the pixel electrode and the signal line: and

wherein the gap is set to be within a range of from not less than  $4\frac{1}{2}\text{ }\mu\text{m}$  to not more than  $20\text{ }\mu\text{m}$ .

### **REASONS FOR ALLOWANCE**

4. The following is an examiner's statement of reasons for allowance:

The primary reason for allowance of currently amended claim 1 is the inclusion of the limitation regarding the size of the gap, specifically that the gap is set to be within a range of from not less than 2  $\mu\text{m}$  to not more than 20  $\mu\text{m}$ , in combination with the other recited features of the claims, which is not found singularly or in combination within the prior art.

The closest available prior art reference is Sano et al. (US 6,724,443) which discloses a gap provided between the signal line and the pixel electrode (Figure 2) and that the size of the gap can be around 1  $\mu\text{m}$  (Column 2, lines 19-20), however, this newly cited reference along with the other recited prior art documents, still fail to teach of the limitation "wherein the gap is set to be within a range of from not less than 2  $\mu\text{m}$  to not more than 20  $\mu\text{m}$ ."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN G. SHERMAN whose telephone number is (571)272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen G Sherman/  
Examiner, Art Unit 2629

/Amr Awad/  
Supervisory Patent Examiner, Art Unit 2629

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14 July 2009